Lower California: A rock slide near the San Diego-Ensenada Highway in La Mision Valley. About 40 miles south of Tia Juana. Two live and one dead shell and several fragments collected by E. P. and E. M. Chace and one shell collected by Mr. Geo. Willett. The type No. 350*a*, in the collection of the writers. Paratype in the collection of Mr. Geo. Willett.

This shell resembles *H. traski phlyctaena* Bartsch from Santa Barbara Co. in shape, size, color and umbilicus, but is thinner and the spiral sculpture is very much weaker. It resembles *H. t. caelata* Bartsch, geographically its nearest relative, in the faintness of its spiral sculpture, but is larger, more widely umbilicate and is more highly polished. Another neighboring race, *H. t. isidroensis* Bartsch, is also smaller, more papillose, and less polished. The writers are indebted to Dr. Clinton G. Abbott, of the San Diego Society of Natural History, for the loan of the paratype of *H. t. isidroensis.*

A few specimens each of *Haplotrema transfuga* Hemp. and *Micrarionta stearnsiana* Gabb were found in the same rock slide.

HELIX POMATIA LINNÉ IN JACKSON, MICHIGAN

BY A. F. ARCHER

Up to the present time all attempts to establish the edible snail, *Helix pomatia* Linné, in different points in North America have ended in failure. This species has been reported in different localities in the United States, but in all cases the evidence at hand indicates that it did not perpetuate itself. It is very probable that its failure to do so is largely due to the unsuitable conditions of the environment in each place where the attempted introduction was made. *Helix pomatia* chiefly occurs in the mid-latitudes of central and western Europe, and does not appear to be adapted to rigorous climates in extreme northern Europe nor, again, to the semiarid conditions of the Mediterranean Region proper. It, therefore, seems reasonable to expect that in the humid, temperate portions of North America it would be able to establish itself successfully. However, there is also a definite soil requirement on the part of this species. In "The Habitats of Land Mollusca in Britain" (Jour. Ecol., 1934, Volume 22, p. 31)

A. E. Boycott states that it is an obligatory calcicole. In other words, it requires a fairly high calcium content in the soil. This fact in itself would explain the failure to persist in the various localities where it has been introduced.

In the spring of 1937, Dr. Phil Marsh of Jackson, Michigan, brought me some specimens of *Helix pomatia* which he said were found in a garden in that city. In June both of us, in company with a member of the state agricultural department, investigated the locality in order to find out the condition of the colony, and also to investigate complaints that it was doing damage to garden plants. It was found that it had been introduced into Jackson by a Mr. Maddalena who some five years ago, on returning from a visit to New York City, had released six snails in his lettuce garden. He had bought the specimens in New York, and intended to propagate them for food, as is the custom in his native Italy. Since then they have thriven well, and have spread into all the gardens of the Union Street block, between Third and Fourth Streets, Jackson. The feelings of his neighbors toward this strange snail are rather mixed, and in a few cases we found specific complaints of its effect on garden plants, although on the whole the local attitude is one of puzzlement or perplexity rather than hostility. I was skeptical from the start as to its harmful acivities, for it is not regarded as a garden pest in Europe, nor is it more than a casual inhabitant of gardens.

The following are the resuts of our investigation of this and other garden mollusks in this locality:

1. *Helix pomatia* has become abundant in the gardens and small orchards of the Union Street block, but at present has not spread to neighboring blocks. In the course of several hours, we turned up a total of nearly 200 specimens of various stages of growth in all the gardens from which samples were taken. Inasmuch as Jackson is located on soils that are slightly on the acid side, its abundance is a little puzzling. However, the area now occupied by houses was until recently swamp land which has now been filled in. The sources of the soil are unknown. Moreover, the gardens are limed, so that the soil tends to be improved by cultivation. The gardens themselves consist of flower gardens, vegetable gardens, and apple and cherry orchards.

The damage imputed to the snail was traced specifically to reports of harm done to zinnias and morning-glories in one garden only. The work, however, was done by cut-worms, and the snails probably ate the wilted leaves. *Pomatia* here as in Europe is mainly a scavenger, and seldom attacks living plant tissues, unless the quantity of mycelia eaten be included in this category. It is harmless at the worst, and may well be beneficial. There are at least two introduced slugs that are certainly more harmful in nature than it is.

The habitats of *H. pomatia* include the following plants under whose leaves it seeks shelter: Lettuce, fall chrysanthemum, lilacs, oriental poppy, currants, and various species of grass. It seems to avoid rhubarb, wood sorrel, and sheep sorrel. It is very exploratory, climbing wire fences, apple and cherry trees up to at least six feet. It aestivates in sand boxes, drain pipes, under cement blocks, and at the foundations of houses.

2. *Limax maximus* Linné. In lettuce, oriental poppy, and lilacs. It invades garbage pails. This slug is not very abundant, but is potentially harmful.

3. *Deroceras agreste* (Linné). If this slug were more abundant, it would undoubtedly do much damage to garden plants.

4. *Cochlicopa lubrica* (Müller). Nearly everywhere.

5. *Zonitoides arboreus* (Say). In grass and under boards.

6. *Vallonia pulchella* (Müller). In grass and under garden plants.

The small number of species in the Union Street gardens as compared with other parts of the city is probably explicable on the grounds of the recent origin of the surface soil. Other species in city gardens and back lots include *Helicodiscus parallelus, Vallonia costata, Succinea avara,* and *Polygyra albolabris.*

MONADENIA SEMIALBA HENDERSON

BY WALTER J. EYERDAM

On August 21–22nd, 1937, Mr. and Mrs. Chace and I made a special excursion to Rosario beach, Fidalgo island, Skagit County, Washington, which is only about a quarter of a mile from the Deception Pass steel bridge which connects the highway with